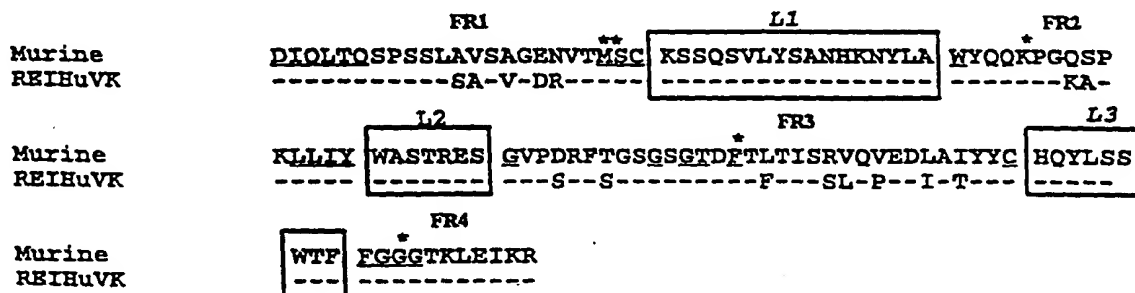


SEQUENCE ID NO. 1

Fig. 1A.



SEQUENCE ID NO. 2

Fig. 1B.

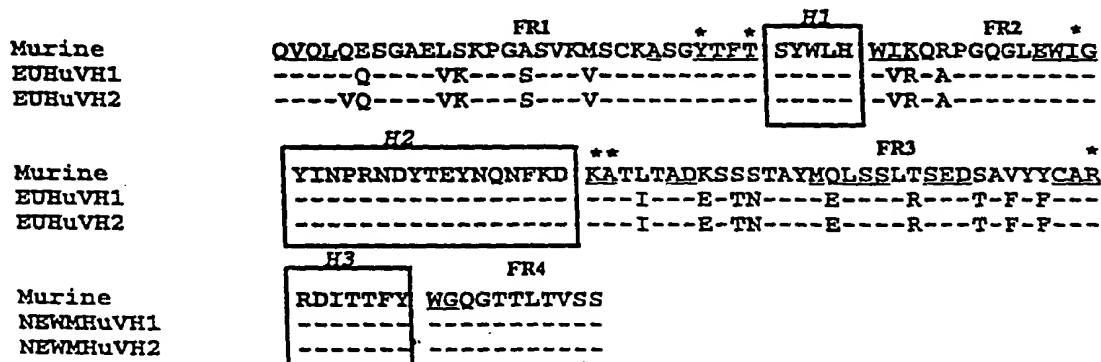


FIG. 1

Title: IMMUNOCONJUGATES AND
HUMANIZED ANTIBODIES SPECIFIC
FOR B-CELL LYMPHOMA AND
LEUKEMIA CELLS

Inventor(s): Shui-on LEUNG et al.
DOCKET NO.: 018733/0996

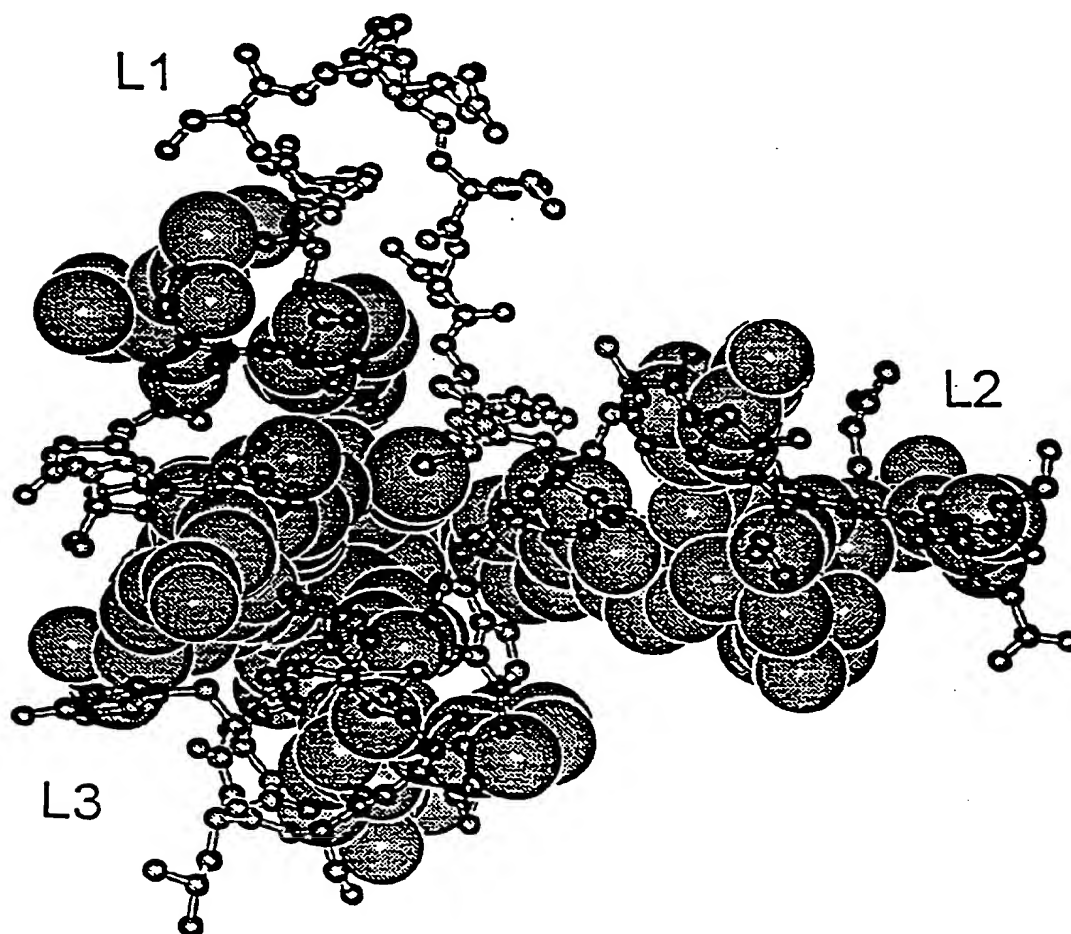


FIG. 2A

002227 " 04974760

Title: IMMUNOCONJUGATES AND
HUMANIZED ANTIBODIES SPECIFIC
FOR B-CELL LYMPHOMA AND
LEUKEMIA CELLS

Inventor(s): Shui-on LEUNG et al.
DOCKET NO.: 018733/0996

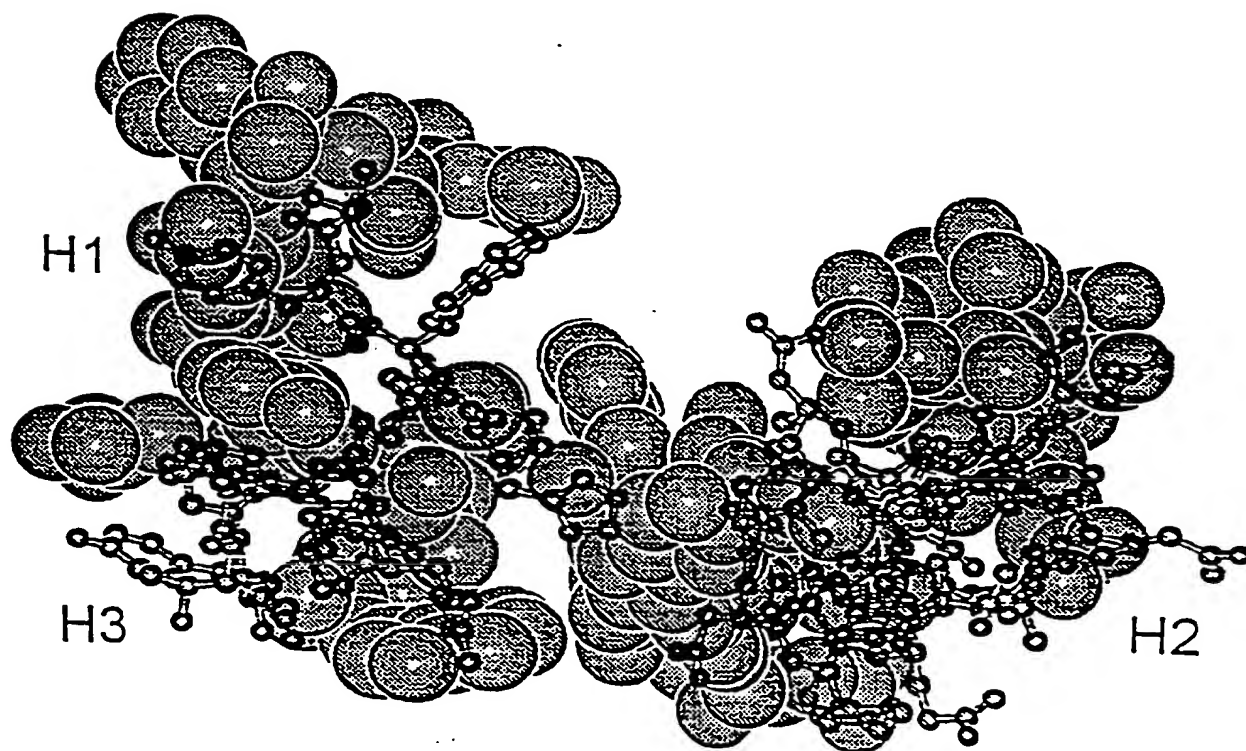
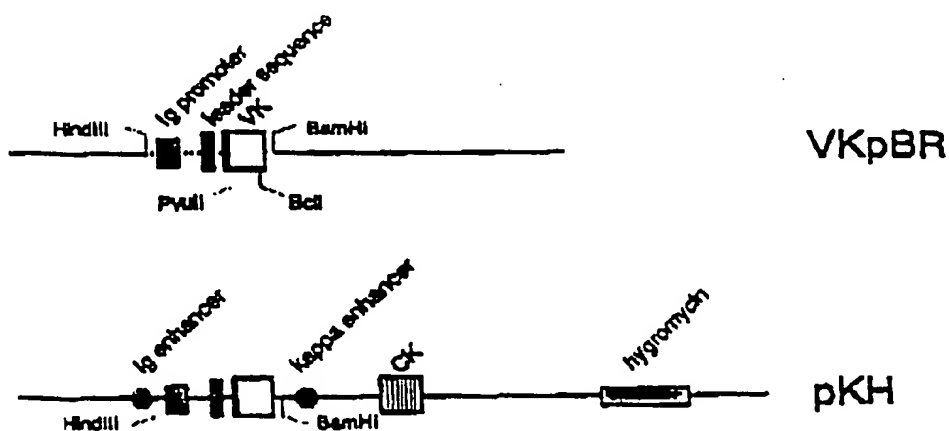


FIG. 2B

A. Light Chain Staging and Expression Vector



B. Heavy Chain Staging and Expression Vector

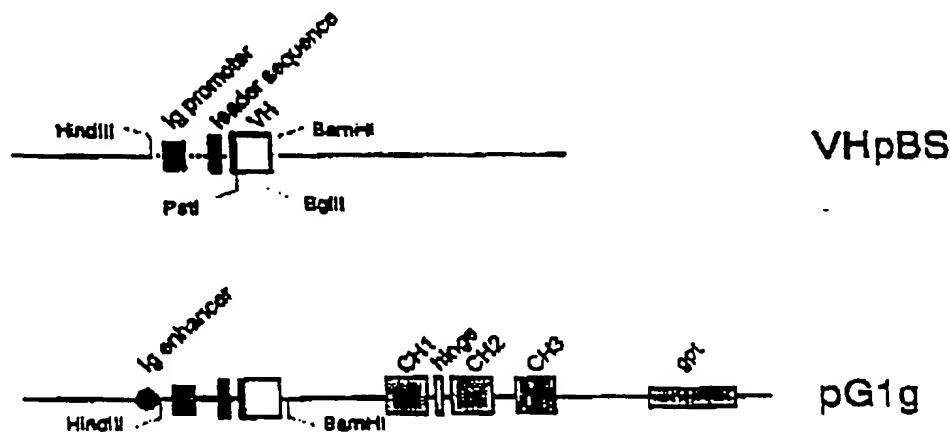


FIG. 3

0944247650

Title: IMMUNOCONJUGATES AND
HUMANIZED ANTIBODIES SPECIFIC
FOR B-CELL LYMPHOMA AND
LEUKEMIA CELLS

Inventor(s): Shui-on LEUNG et al.
DOCKET NO.: 018733/0996

LL2 VK

SEQUENCE ID NO. 3

1 GACATTCAGCTGACCCAGTCTCCATCATCTCTGGCTGTGTCTGCAGGAGAAAACGTCACCT
CTGTAAGTCGACTGGGTCTAGAGGTAGTAGAGACCGACACAGACGTCCTCTTTTGCAGTGA
D I Q L T Q S P S S L A V S A G E N V T -
61 ATGAGCTGTAAGTCCAGTCAAAGTGTTTTATACAGTGCAAATCACAAGAACTACTTGGCC
TACTCGACATTCAGGTCAGTTTCACAAAATATGTCACGTTTAGTGTTCTTGATGAACCGG
CDR1
M S C K S S Q S V L Y S A N H K N Y L A -
121 TGGTACCAGCAGAAACCAGGGCAGTCTCCTAAACTGCTGATCTACTGGGCATCCACTAGG
ACCATGGTCGTCTTTGGTCCCGTCAGAGGATTTGACGACTAGATGACCCGTAGGTGATCC
CDR2
W Y Q Q K P G Q S P K L L I Y W A S T R -
181 GAATCTGGTGTCCCTGATCGCTTCACAGGCAGCGGATCTGGGACAGATTTTACTCTTACC
CTTAGACCACAGGGACTAGCGAAGTGTCGCTCGCCTAGACCCTGTCTAAATGAGAATGG
E S G V P D R F T G S G S G T D F T L T -
241 ATCAGCAGAGTACAAGTTGAAGACCTGGCAATTTATTATTGTCACCAATACCTCTCCTCG
TAGTCGTCTCATGTTCAACTTCTGGACCGTTAAATAATAACAGTGGTTATGGAGAGGAGC
CDR3
I S R V Q V E D L A I Y Y C H Q Y L S S -
301 TGGACGTTCCGTGGAGGGACCAAGCTGGAGATCAAACGT
ACCTGCAAGCCACCTCCCTGGTTCGACCTCTAGTTTGCA
W T F G G G T K L E I K R -

FIG. 4A

LL2 VH

SEQUENCE ID NO. 4

CAGGTCCAGCTGCAGGAGTCAGGGGCTGAACTGTCAAAACCTGGGGCCTCAGTGAAGATG
1 -----+-----+-----+-----+-----+-----+ 60
GTCCAGGTCGACGTCCTCAGTCCCCGACTTGACAGTTTGGACCCCGGAGTCACTTCTAC
Q V Q L Q E S G A E L S K P G A S V K M -
TCCTGCAAGGCTTCTGGCTACACCTTTACTAGCTACTGGCTGCACTGGATAAAACAGAGG
61 -----+-----+-----+-----+-----+ 120
AGGACGTTCCGAAGACCGATGTGGAAATGATCGATGACCGACGTGACCTATTTTGTCTCC
CDR1
S C K A S G Y T F T S Y W L H W I K Q R -
CCTGGACAGGGTCTGGAATGGATTGGATACATTAATCCTAGGAATGATTATACTGAGTAC
121 -----+-----+-----+-----+-----+ 180
GGACCTGTCCCAGACCTTACCTAACCTATGTAATTAGGATCCTTACTAATATGACTCATG
CDR2
P G Q G L E W I G Y I N P R N D Y T E Y -
AATCAGAACTTCAAGGACAAGGCCACATTGACTGCAGACAAATCCTCCAGCACAGCCTAC
181 -----+-----+-----+-----+-----+ 240
TTAGTCTTGAAGTTCCTGTTCCGGTGTAAGTACGCTCTGTTTAGGAGGTCGTGTCGGATG
N Q N F K D K A T L T A D K S S S T A Y -
ATGCAACTGAGCAGCCTGACATCTGAGGACTCTGCAGTCTATTACTGTGCAAGAAGGGAT
241 -----+-----+-----+-----+-----+ 300
TACGTTGACTCGTCGGACTGTAGACTCCTGAGACGTCAGATAATGACACGTTCTTCCCTA
M Q L S S L T S E D S A V Y Y C A R R D -
ATTACTACGTTCTACTGGGGCCAAGGCACCACTCTCACAGTCTCCTCG
301 -----+-----+-----+-----+-----+ 348
TAATGATGCAAGATGACCCCGGTTCCGTGGTGAGAGTGTGAGAGGAGC
CDR3
I T T F Y W G Q G T T L T V S S -

FIG. 4B

Title: IMMUNOCONJUGATES AND
HUMANIZED ANTIBODIES SPECIFIC
FOR B-CELL LYMPHOMA AND
LEUKEMIA CELLS

Inventor(s): Shui-on LEUNG et al.
DOCKET NO.: 018733/0996

SEQUENCE ID NO. 5

1 GACATTCAGCTGACCCAGTCTCCATCATCTCTGAGCGCATCTGTTGGAGATAGGGTCACT
-----+-----+-----+-----+-----+ 60
CTGTAAGTCGACTGGGTCAGAGGTAGTAGAGACTCGCGTAGACAACCTCTATCCCAGTGA
D I Q L T Q S P S S L S A S V G D R V T -

61 ATGAGCTGTAAGTCCAGTCAAAGTGTTTTATACAGTGCAAATCACAAGAACTACTTGGCC
-----+-----+-----+-----+-----+ 120
TACTCGACATTCAGGTCAGTTTCACAAAATATGTCACGTTTAGTGTTCTTGATGAACCGG
CDR1
M S C K S S Q S V L Y S A N E K N Y L A -

121 TGGTACCAGCAGAAACCAGGGAAAGCACCTAAACTGCTGATCTACTGGGCATCCACTAGG
-----+-----+-----+-----+-----+ 180
ACCATGGTCGTCTTTGGTCCCTTTCGTGGATTGACGACTAGATGACCCGTAGGTGATCC
CDR2
W Y Q Q K P G K A P K L L I Y W A S T R -

181 GAATCTGGTGTCCCTTCGCGATTCTCTGGCAGCGGATCTGGGACAGATTTTACTTTTACC
-----+-----+-----+-----+-----+ 240
CTTAGACCACAGGGAAGCGCTAAGAGACCGTCGCCTAGACCCTGTCTAAAATGAAAGTGG
E S G V P S R F S G S G S G T D F T F T -

241 ATCAGCTCTCTTCAACCAGAAGACATTGCAACATATTATTGTCACCAATACCTCTCCTCG
-----+-----+-----+-----+-----+ 300
TAGTCGAGAGAAGTTGGTCTTCTGTAACGTTGTATAATAACAGTGGTTATGGAGAGGAGC
CDR3
I S S L Q P E D I A T Y Y C H Q Y L S S -

301 TGGACGTTTCGGTGGAGGGACCAAGGTGCAGATCTGCCGGTCTCCC
-----+-----+-----+-----+-----+ 345
ACCTGCAAGCCACCTCCCTGGTTCCACGTCTAGACGGCCAGAGGG
W T F G G G T K V Q I C R S P -

FIG. 5A

Title: IMMUNOCONJUGATES AND
HUMANIZED ANTIBODIES SPECIFIC
FOR B-CELL LYMPHOMA AND
LEUKEMIA CELLS

Inventor(s): Shui-on LEUNG et al.
DOCKET NO.: 018733/0996

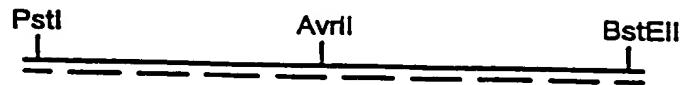
SEQUENCE ID NO. 6

097434360

CAGGTCCAGCTGGTCCAATCAGGGGCTGAAGTCAAGAACCTGGGTCATCAGTGAAGGTC
1 -----+-----+-----+-----+-----+ 60
GTCCAGGTGACACCAGGTTAGTCCCCGACTTCAGTTCTTTGGACCCAGTAGTCACTTCCAG
Q V Q L V Q S G A E V K K P G S S V K V -
TCCTGCAAGGCTTCTGGCTACACCTTTACTAGCTACTGGCTGCACTGGGTCAGGCAGGCA
61 -----+-----+-----+-----+-----+ 120
AGGACGTTCCGAAGACCGATGTGGAATGATCGATGACCGACGTGACCCAGTCCGTCCGT
S C K A S G Y T F T S Y W L H W V R Q A -
CCTGGACAGGGTCTGGAATGGATTGGATACATTAATCCTAGGAATGATTATACTGAGTAC
121 -----+-----+-----+-----+-----+ 180
GGACCTGTCCCAGACCTTACCTAACCTATGTAATTAGGATCCTTACTAATATGACTCATG
P G Q G L E W I G Y I N P R N D Y T E Y -
AATCAGAACTTCAAGGACAAGGCCACAATAACTGCAGACGAATCCACCAATACAGCCTAC
181 -----+-----+-----+-----+-----+ 240
TTAGTCTTGAAGTTCCTGTTCCGGTGTATTGACGTCTGCTTAGGTGGTTATGTCGGATG
N Q N F K D K A T I T A D E S T N T A Y -
ATGGAGCTGAGCAGCCTGAGGTCTGAGGACACGGCATTATTTATTTTGTGCAAGAAGGGAT
241 -----+-----+-----+-----+-----+ 300
TACCTCGACTCGTCGGACTCCAGACTCCTGTGCCGTAAAATAAAAACAGTTCTTCCCTA
M E L S S L R S E D T A F Y F C A R R D -
ATTACTACGTTCTACTGGGGCCAAGGCACCACGGTCACCGTCTCCTCG
301 -----+-----+-----+-----+-----+ 348
TAATGATGCAAGATGACCCCGGTTCCGTGGTGCCAGTGGCAGAGGAGC
I T T F Y W G Q G T T V T V S S -
CDR1
CDR2
CDR3

FIG. 5B

Designed sequence for humanized LL2 VH domain:



Construction of the humanized LL2 VH domain by long oligonucleotides and PCR:

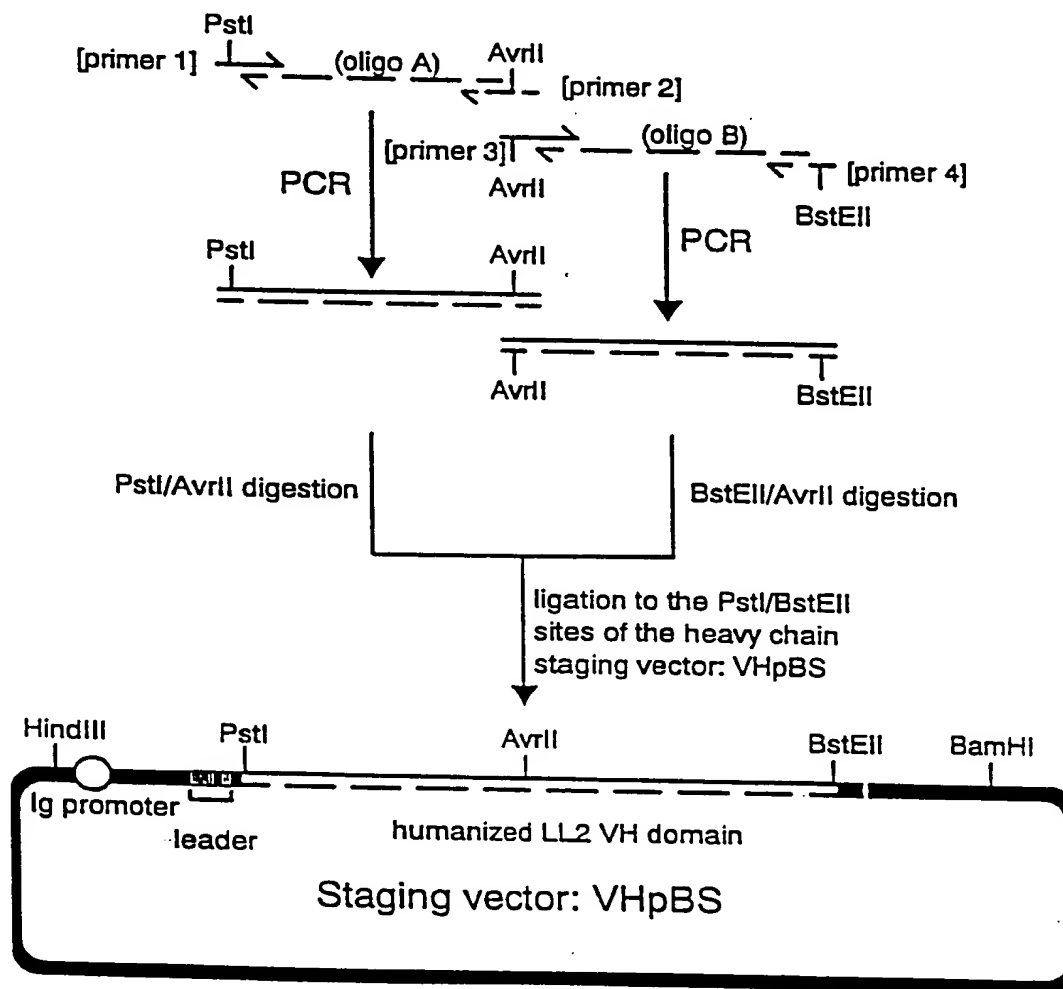


FIG. 6

Title: IMMUNOCONJUGATES AND
HUMANIZED ANTIBODIES SPECIFIC
FOR B-CELL LYMPHOMA AND
LEUKEMIA CELLS

Inventor(s): Shui-on LEUNG et al.
DOCKET NO.: 018733/0996

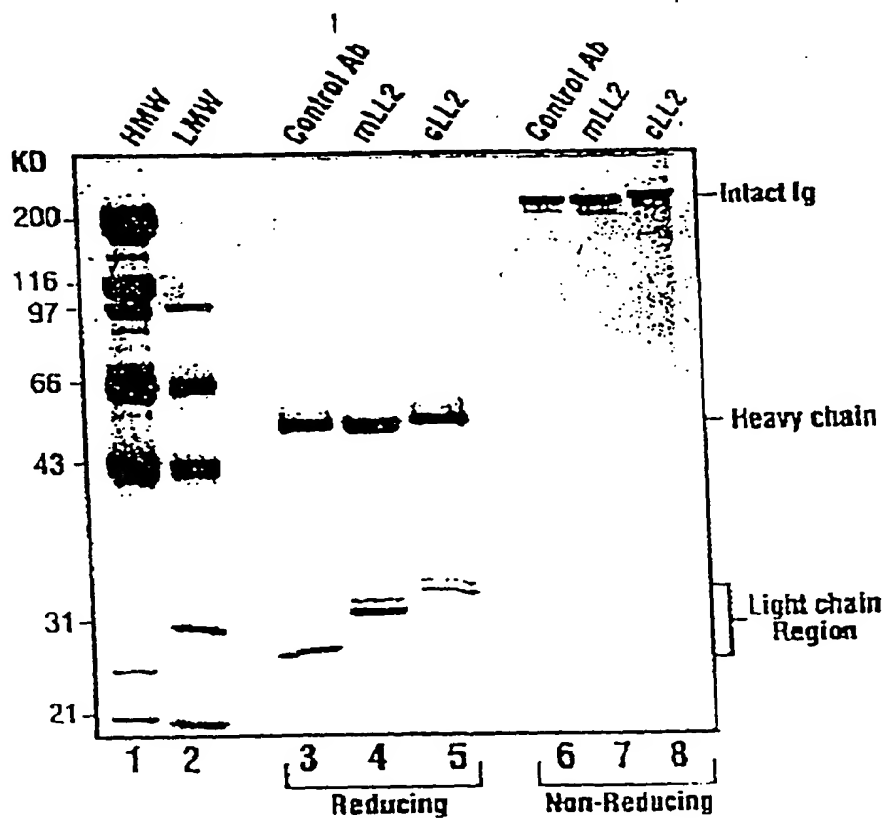


FIG. 7

Title: IMMUNOCONJUGATES AND
HUMANIZED ANTIBODIES SPECIFIC
FOR B-CELL LYMPHOMA AND
LEUKEMIA CELLS

Inventor(s): Shui-on LEUNG et al.

DOCKET NO.: 018733/0996

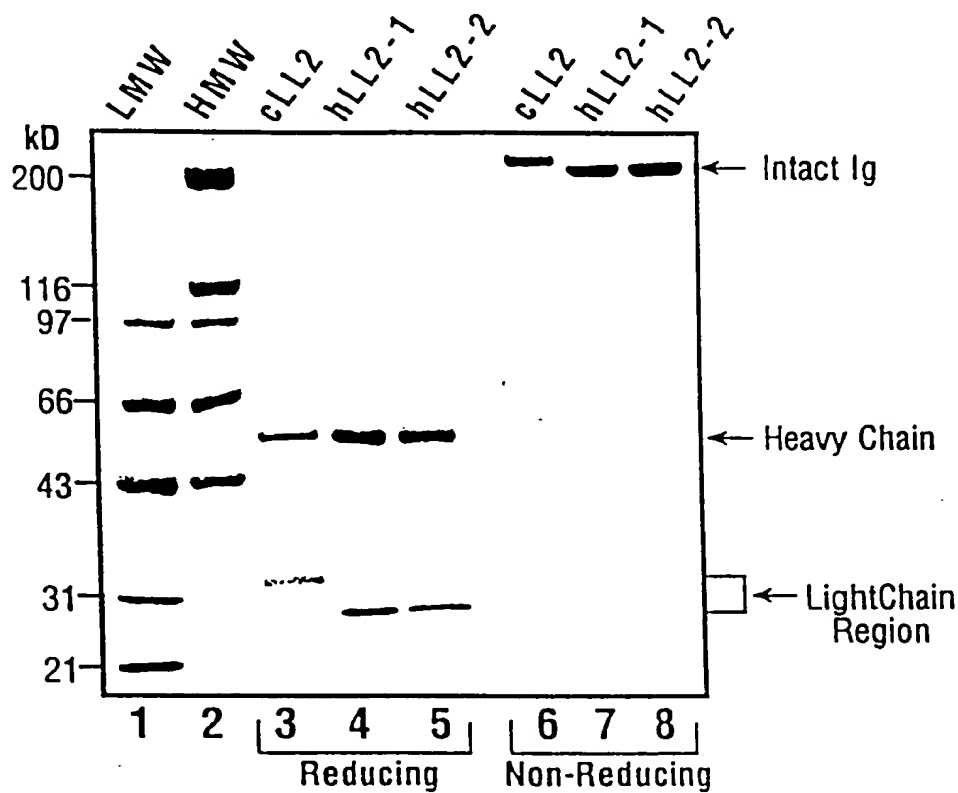


FIG. 8

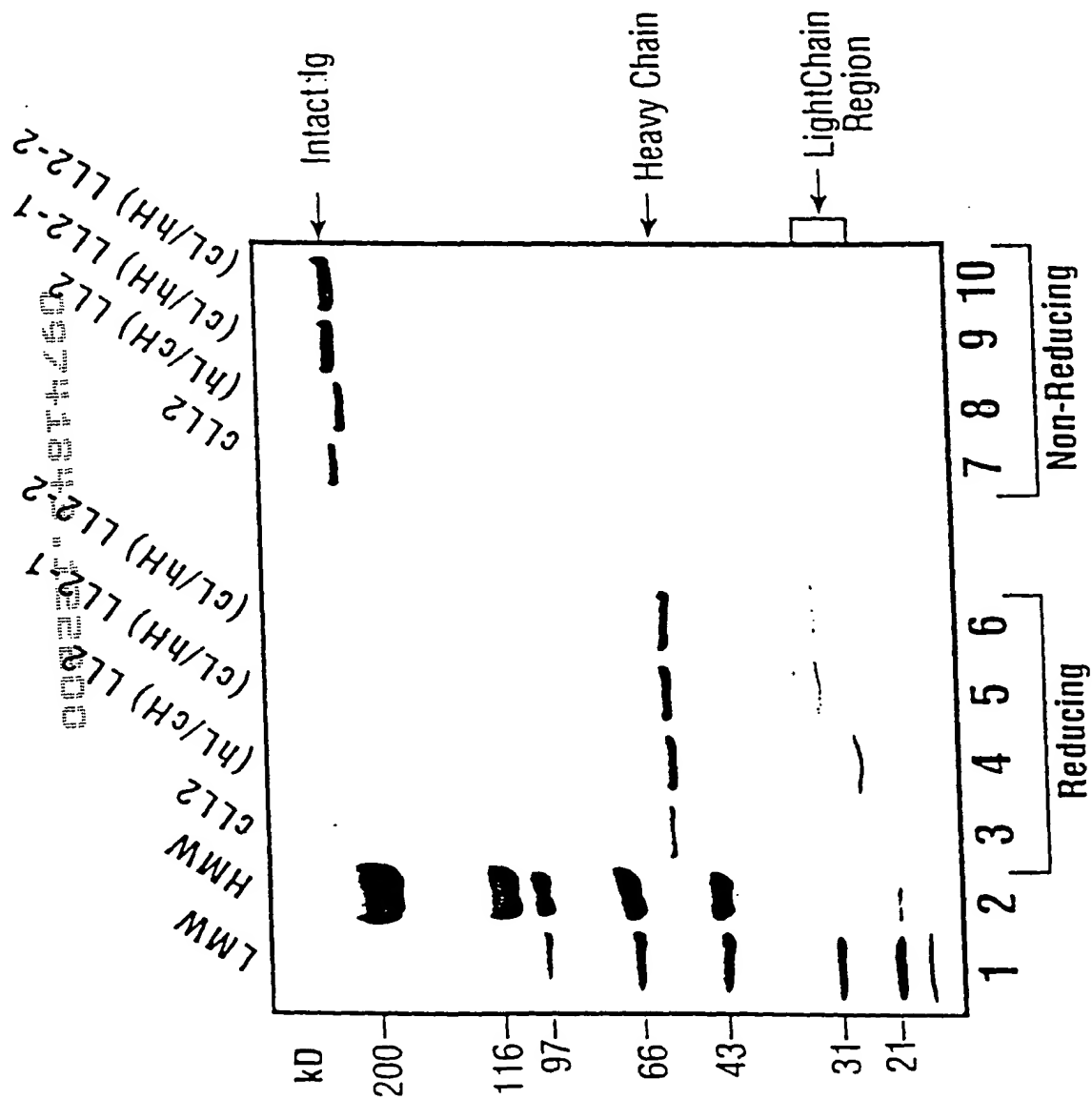


FIG. 9

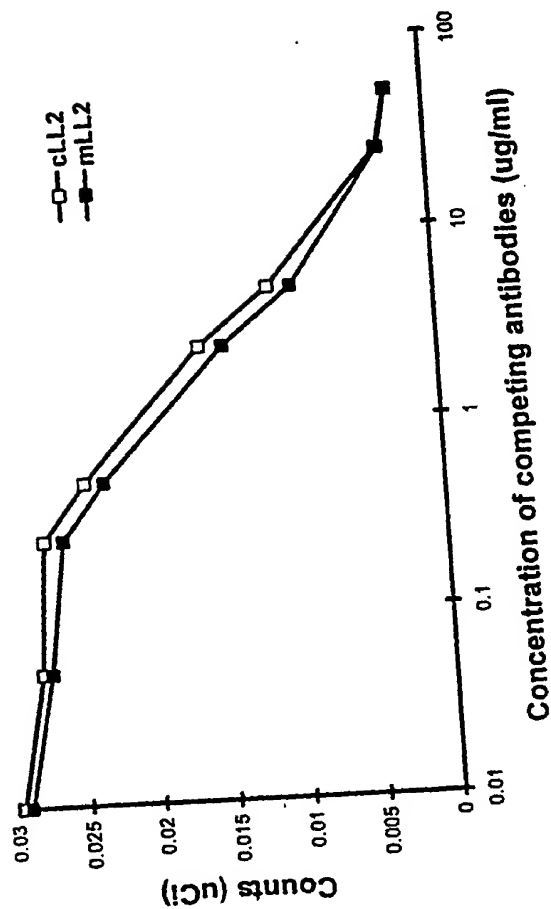
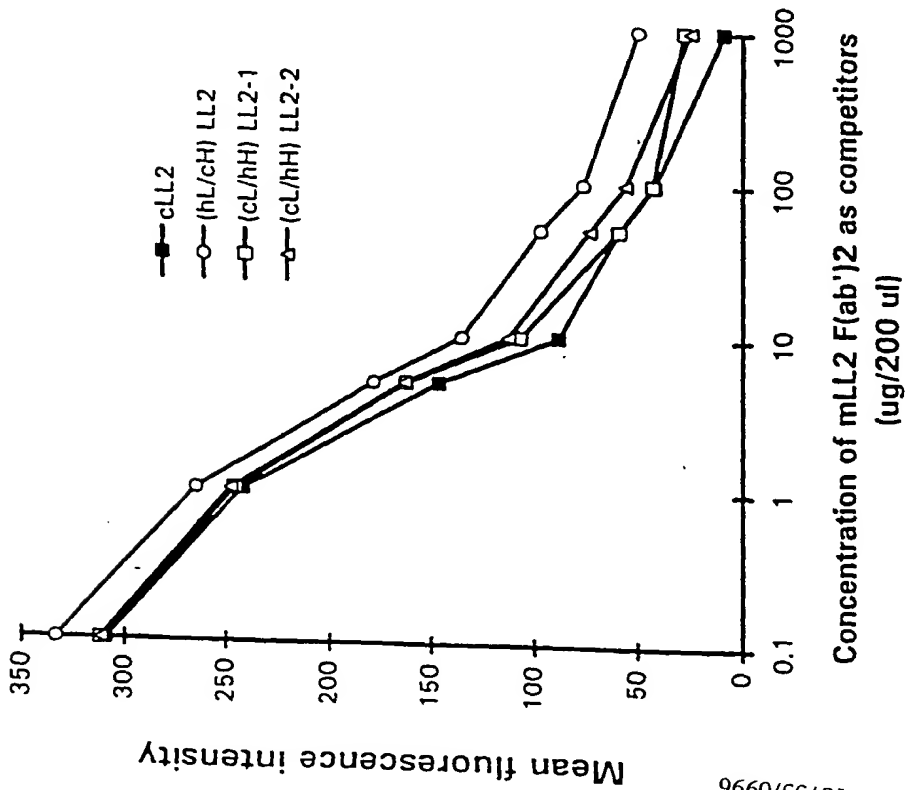


FIG. 10

11A



11B

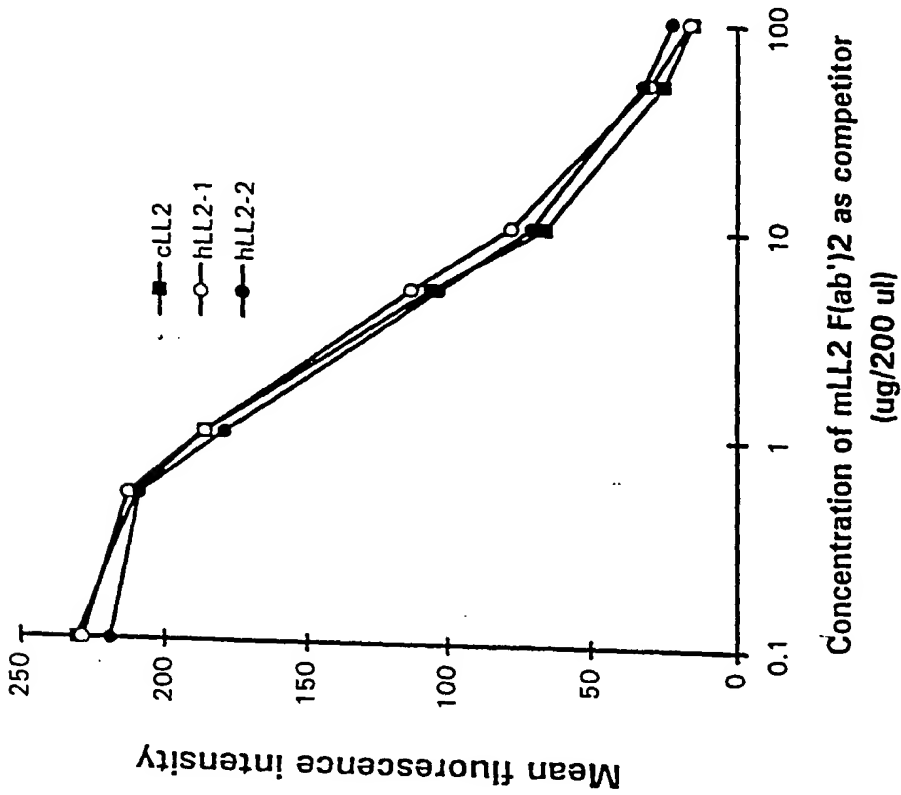


FIG. 11

Internalization: c-LL2. h-LL2 vs. m-LL2 in Raji cells

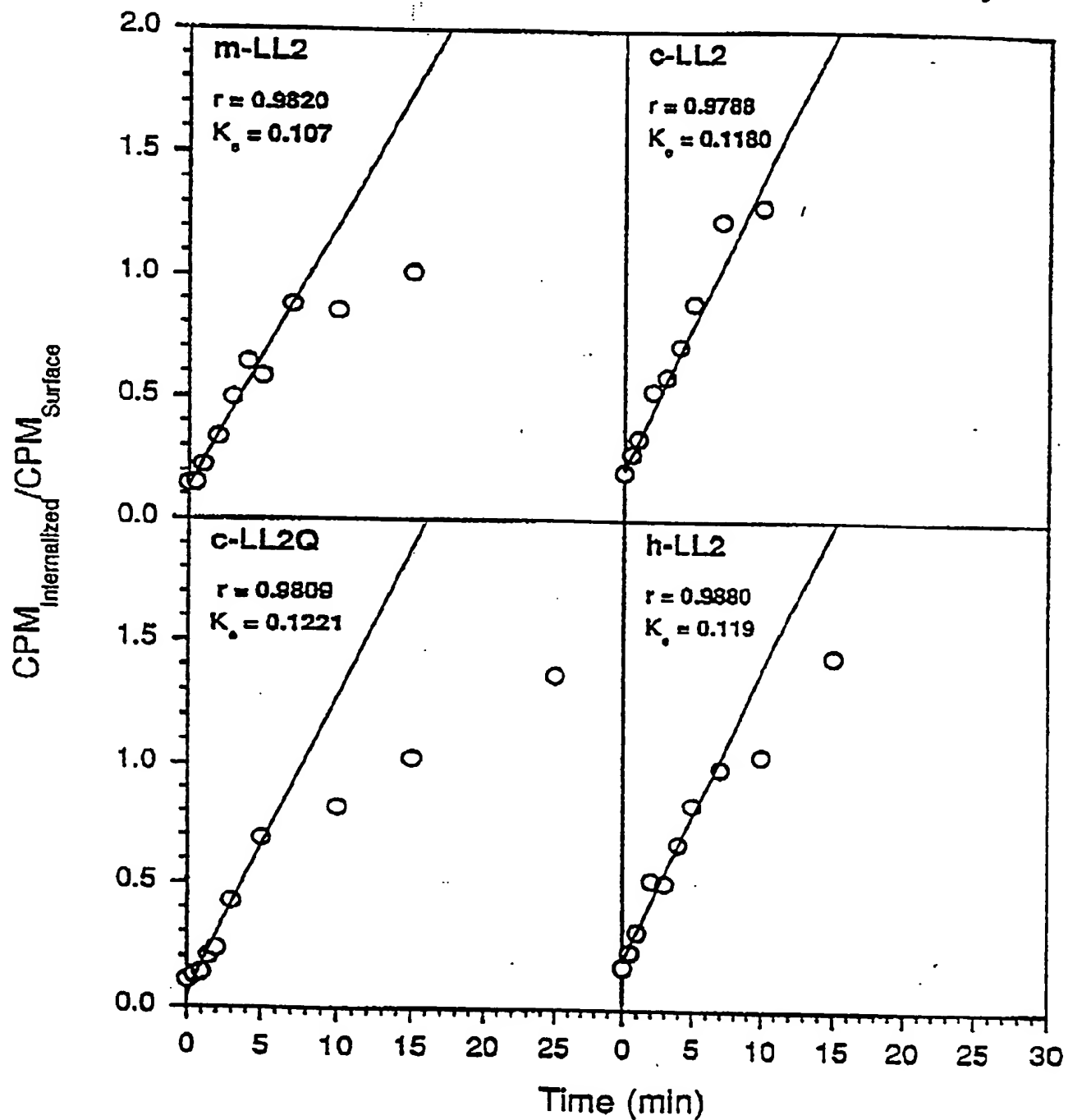


FIG. 12

Title: IMMUNOCONJUGATES AND
HUMANIZED ANTIBODIES SPECIFIC
FOR B-CELL LYMPHOMA AND
LEUKEMIA CELLS

Inventor(s): Shui-on LEUNG et al.
DOCKET NO.: 018733/0996

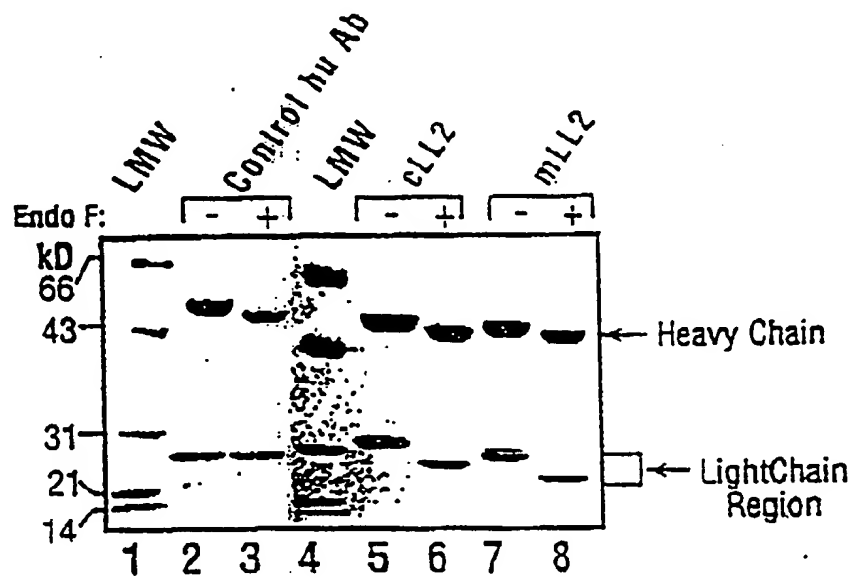


FIG. 13

Title: IMMUNOCONJUGATES AND
HUMANIZED ANTIBODIES SPECIFIC
FOR B-CELL LYMPHOMA AND
LEUKEMIA CELLS

Inventor(s): Shui-on LEUNG et al.
DOCKET NO.: 018733/0996

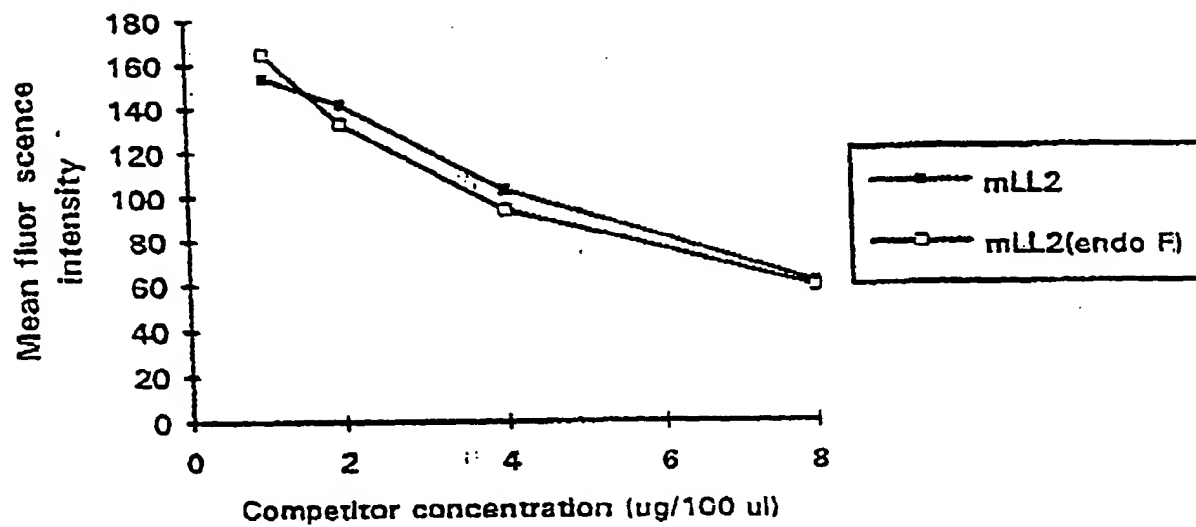


FIG. 14